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Environmental Monitoring
Systems Laboratory
P.O. Box 93478
Las Vegas NV 89193-3478

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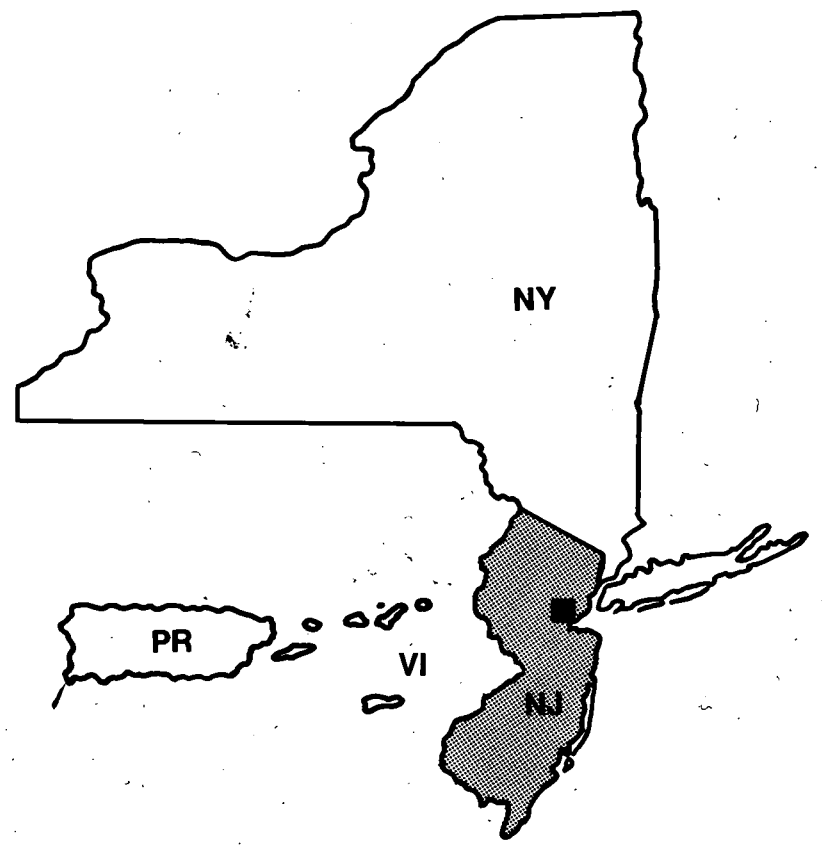
Research and Development

EPA Site Analysis Tidewater Baling Newark, New Jersey

EPA Region 2
and OERR



TS-PIC-89108
February 1990

Site Analysis
Tidewater Baling
Newark, New Jersey

by
David Dodge, Imagery Analyst
The Bionetics Corporation
Warrenton, Virginia 22186

Contract No. 68-03-3532

Project Officer
Thomas R. Osberg
Environmental Photographic Interpretation Center
Environmental Monitoring Systems Laboratory
Warrenton, Virginia 22186, FTS 557-3110

ENVIRONMENTAL MONITORING SYSTEMS LABORATORY
OFFICE OF RESEARCH AND DEVELOPMENT
U.S. ENVIRONMENTAL PROTECTION AGENCY
LAS VEGAS, NEVADA 89193-3478

NOTICE

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ABSTRACT

This report contains an analysis of historical aerial photography of the Tidewater Baling site, located southeast of the intersection of St. Charles and Ferry Streets in Newark, New Jersey. This analysis was conducted at the request of the Environmental Protection Agency's (EPA) Region 2 to support a Superfund removal project by locating potential contaminant pathways and potential contamination sources. Polychlorinated biphenyls (PCBs) have been found on the Tidewater Baling site and within the adjacent Ironbound Stadium; phenols have also been found on the stadium site.

Aerial photography of the Tidewater Baling site was obtained to represent the period from 1940 to 1987. Drums, a possible fill area, tanks, stains, standing liquids, mounded scrap and materials were observed throughout the 1940-1987 time frame.

The EPA's Environmental Photographic Interpretation Center in Warrenton, Virginia, a branch of the Advanced Monitoring Systems Division of the Environmental Monitoring Systems Laboratory in Las Vegas, Nevada, performed this analysis at the request of the Superfund Support Section of EPA Region 2 in New York, New York, and the Office of Emergency and Remedial Response in Washington, D.C. This analysis covers the period from 1940 to 1987, and this report was completed in February 1990.

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INTRODUCTION

This report contains an analysis of historical aerial photography of the Tidewater Baling site, located southeast of the intersection of St. Charles and Ferry Streets in Newark, New Jersey. This analysis was conducted at the request of the Environmental Protection Agency's (EPA) Region 2 to support a Superfund removal project by locating potential contaminant pathways and sources originating at the site. Polychlorinated biphenyls (PCBs) have been found on the Tidewater Baling site and within the adjacent Ironbound Stadium; phenols have also been found in the stadium portion of the study area.

Figure 1 shows the site location, keyed to a photocopy of a U.S. Geological Survey (USGS) 1:24,000-scale topographic quadrangle map. Approximate site boundaries or areas used in this analysis were determined from observations made from the aerial photography in conjunction with collateral data supplied by EPA Region 2 as well as Sanborn Fire Insurance Maps. These boundaries do not necessarily denote legal property lines or ownership. A distinction is made between the site boundary, which contains the Tidewater Baling property, and the study area boundary, which consists of Tidewater Baling and the surrounding area. An approximate boundary for the Tidewater Baling site is provided. Because this site boundary does not significantly change, it may be omitted from overlays to allow for the clear annotation of details. The titles given for the other properties within the study area were also obtained from Sanborn Maps and are used for locational purposes only. Features such as fencelines and rail lines are not annotated.

Aerial photography of the study area was obtained to represent the period from 1940 to 1987.[1] Historical black and white photography from 1940, 1946, 1951, 1954, 1959, 1960, 1961, 1963, 1970, 1974, 1977, and 1987; and color photography from 1974 and 1981 were used for this analysis. Only those years which showed significant changes or possible contamination sources were included in the analysis; the black and white photography from 1946, 1954, 1960, 1961 and 1974 and color photography from 1974 and 1981 were analyzed but not included in this report.

Surface drainage is annotated for each year but not discussed in the text.

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[1] A complete listing of maps and photography used in this report is provided in the References section.

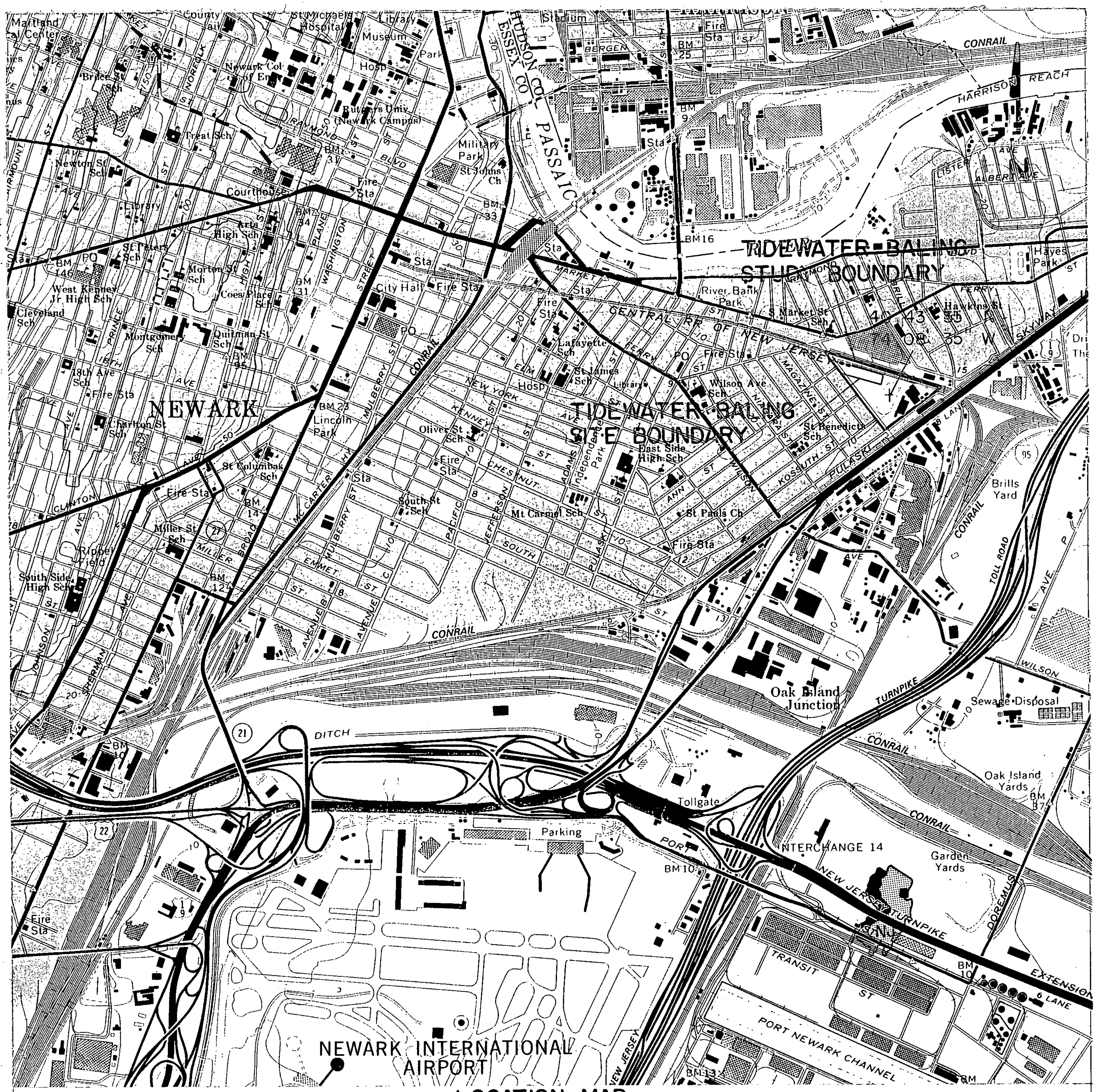


FIGURE I
TIDEWATER BALING

LOCATION MAP
ELIZABETH, N.J. QUAD

APPROX SCALE 1:24,000

Significant features identified during the period of analysis include: drums, a possible fill area, tanks, stains, standing liquids, mounded materials and scrap materials.

For purposes of this report, materials which do not yet appear to have been processed for salvage are designated as scrap material. Those materials for which it cannot be determined from the photography whether they have been processed are designated as mounded material.

The EPA's Environmental Photographit Interpretation Center in Warrenton, Virginia, a branch of the Advanced Monitoring Systems Division of the Environmental Monitoring Systems Laboratory in Las Vegas, Nevada, performed this analysis at the request of the Superfund Support Section of EPA Region 2 in New York, New York, and the Office of Emergency and Remedial Response in Washington, D.C. This analysis covers the period from 1940 to 1987, and the report was completed in February 1990.

METHODOLOGY

A search of government and commercial sources was undertaken to obtain the best available aerial photography of the site spanning the desired time frame. The photography and other sources of information used in this report are listed in the References section.

The analysis was performed by viewing backlit transparencies of aerial photography through stereoscopes. Stereoscopic viewing creates a perceived three-dimensional effect which, when combined with viewing at various magnifications, enables the analyst to identify signatures associated with different features and environmental conditions. The term "signature" refers to a combination of visible characteristics (such as color, tone, shadow, texture, size, shape, pattern, and association) which permit a specific object or condition to be recognized on aerial photography.

Photographic prints were made from those years of aerial photographic coverage that reveal significant information about the site. The analyst's findings are annotated on overlays to prints and/or base maps and described in the accompanying text. Site boundaries or areas used in this analysis were determined from; aerial photography; collateral data provided by EPA Region 2; and Sanborn Fire Insurance Maps. These boundaries do not necessarily denote legal property lines or ownership.

An approximate scale has been calculated for each print. The scale is expressed as a ratio of distance between two points on the print and the same two points on the ground (e.g., 1:20,000, where 1 refers to a unit of distance on the print). This ratio is considered an approximate scale because the accuracy of distance measurements is limited by factors such as the image distortion intrinsic to aerial photography, the expansion or shrinkage of the print, and the precision of the measuring device. The approximate scale represents an average of several calculations rounded to the nearest hundred.

Due to factors inherent in the photographic printing process, prints do not exhibit the level of detail that is visible in the original aerial photography. Therefore, some features identified from the aerial photography may not be clearly discernible, or even visible, on the photographic prints presented in this report.

The terms "possible" and "probable" are used to indicate the degree of certainty of signature identification. "Possible" is used when only a few characteristics are discernible or these characteristics are not unique to a signature. "Probable" is used when incrementally more characteristics are discernible. No qualifying terms are used when the characteristics of a signature allow for a definite feature identification.

AERIAL PHOTO SITE ANALYSIS

APRIL 6, 1940 (FIGURE 2)

Note: Property titles were obtained from Sanborn Maps (dated 1930-1950) and are used for locational purposes only.

Numerous mounds of material (MM) are visible within the Tidewater Baling site. Within the western portion of the site, three mounds of rough-textured, light- (LT) and dark-toned (DK) material are present. Within the central portion, three mounds of dark-toned, fine-textured material are visible. Two smaller mounds of light-toned, rough-textured material are present to the east. The area immediately surrounding the light-toned mounded material is stained. Two possible stains (ST) are located to the south, near the Tidewater Baling site boundary. A possible stain/wet soil (WS) area extends southward between the two western Celanese facilities. Southeast of this stain, a probable ground scar (GS) is located next to a large vehicle (V).

Northeast of the Celanese Acetate Celluloid Facility are two mounds of fine-textured, dark-toned material. Between the mounds is an area composed of rough-textured, medium-toned mounded material. A slope face of light-toned material (not annotated) forms the northern extent of this mound. A vertical tank (VT) is present west of the mound. Southeast of the Celanese Acetate Celluloid Facility is an irregular mound of fine-textured, medium-toned material. A vegetated low area is visible to the southeast. A possible waste disposal area, where light- and dark-toned material appears to have been dumped, is seen southwest of the Iron and Steel Facility. A ditch partially encircles the area. North of the Iron and Steel Facility are a probable pit (P) and a probable ground scar. A possible stain is located southwest of the probable pit.

LEGEND

- B - Building
- D - Drums
- DA - Disturbed Area
- DB - Debris
- DK - Dark-Toned
- GS - Ground Scar
- HT - Horizontal Tank
- LT - Light-Toned
- M - Material
- MM - Mounded Material
- NB - New Building
- P - Pit
- R - Refuse
- RV - Revetted
- SL - Standing Liquid
- SM - Scrap Material
- ST - Stain
- T - Tank
- TR - Trailer
- V - Vehicles
- VT - Vertical Tank
- VSM - Vehicle Scrap Material
- WS - Wet Soil
- ⟶ - Ditch
- ⟶ - Ditch with No Apparent Flow Direction
- ⟶ - Drainage
- - - - - Historical Boundary
- — — — Site Boundary
- ——— Study Area Boundary

FIGURE 2
TIDEWATER BALING APRIL 6, 1940 APPROX SCALE 1: 3,500

APRIL 7, 1951 (FIGURE 3)

A linear mound of dark- and light-toned scrap material (SM) is present in the western portion of the Tidewater Baling site. Three homogenous mounds of dark-toned material are present in the central portion of the site. A mixed light- to medium-toned disturbed area (DA) is also present. A pool of standing liquid (SL) is seen in the eastern portion of the disturbed area. In the eastern portion of Tidewater Baling several mounds of dark-toned material and a mound of medium-toned material are present. Light-toned material (M) is located in the southeast corner of the site. Two possible ground stains are located within the site boundary.

As of 1946, a new building (NB) was seen between the two western Celanese facilities. To the southeast a series of six or seven horizontal tanks (HT) is located next to the vertical tank first seen in 1940. A mound of smooth, dark-toned material and a probable stain are present north of the tanks.

In 1946 and 1950, activity was observed within the Celanese facilities. A large mound of fine-textured, dark-toned material was deposited in the open area immediately north of the Celanese Lindol facility in 1946. By 1950, the size of the mound had greatly diminished. This dark-toned material also appeared to be spread about extensively, both within the facility and across the open field to the west. An open tank storage area is present northwest of the Iron and Steel Facility (1946-1951). In addition, a group of revetted (RV) tanks can be found southwest of the Iron and Steel facility.

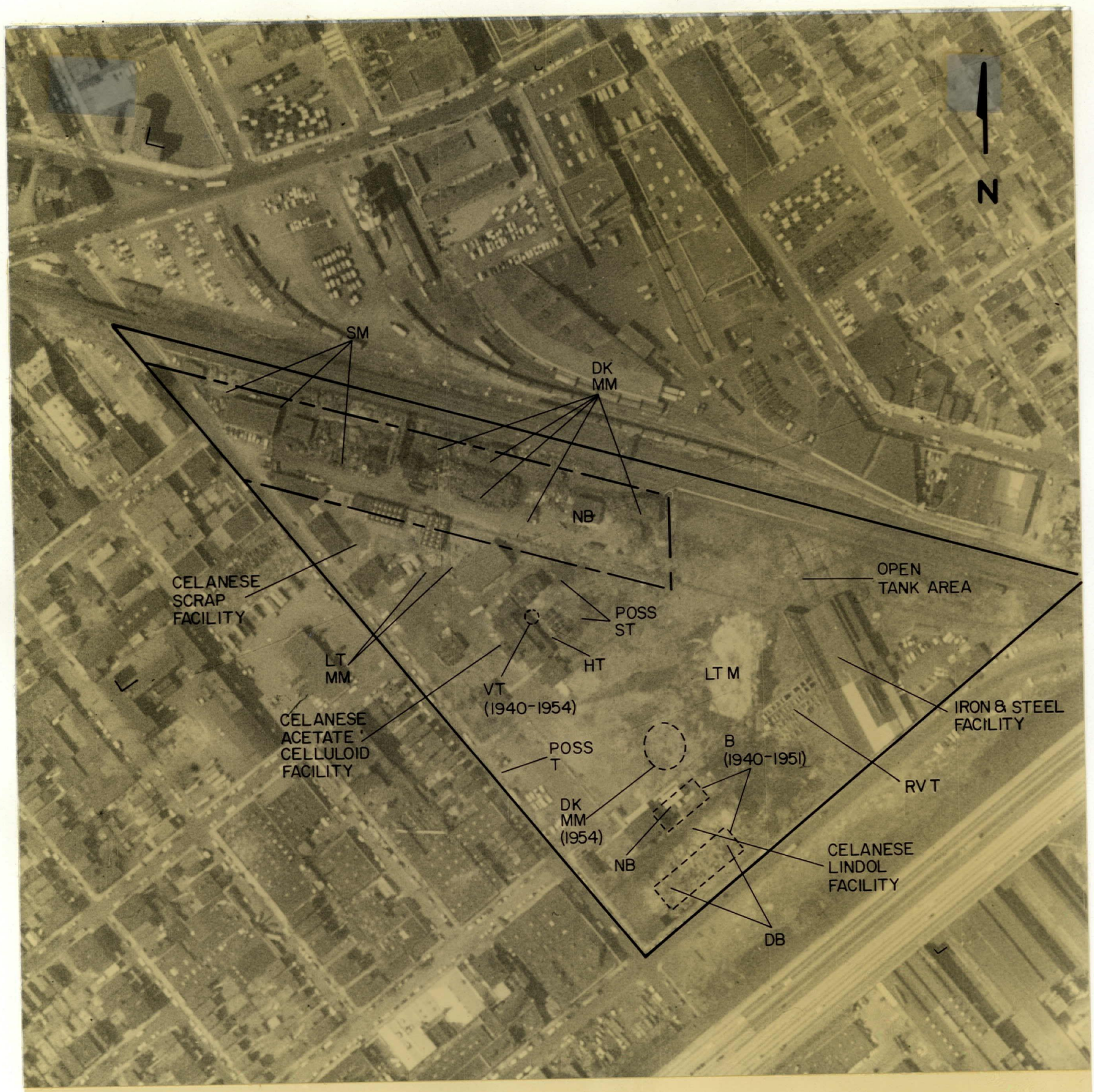
FIGURE 3
TIDEWATER BALING APRIL 7, 1951 APPROX SCALE 1:3,800

APRIL 16, 1959 (FIGURE 4)

The western portion of Tidewater Baling now exhibits light- and dark-toned scrap material spread out in low piles of uneven texture and height. Rough rectangular objects, approximately the size of a mid-sized automobile, are present here. To the east, five homogenous mounds of dark-toned, unevenly textured materials are present. A new building has also been constructed.

Two light-toned, fine grained, homogenous mounds of material can be found immediately south of the Tidewater Baling site, just east of the Celanese Scrap Facility. The vertical tank, found in the Celanese Acetate Celluloid Facility from 1940-1954, has been removed. Two possible stains are noted north of this facility. A possible tank (T) is located southwest of the field area. The majority of the dark-toned mounded material present in the field from 1946 to 1954 is no longer present. Remnants of the dark-toned mounded material are still visible throughout the northern portion of the field.

Light-toned material is seen in the Celanese Lindol Facility, a new building (B) has been built on the location of a pre-existing building, and debris (DB) occupies the former location of the southeastern building. The rail spur that connected this facility to the rail line has been removed. The open tank storage area located northwest of the Iron and Steel Facility is empty at this time. Approximately four revetted tanks remain in the area south of the Iron and Steel Facility. Remaining storage racks are empty.



LEGEND

- B - Building
- D - Drums
- DA - Disturbed Area
- DB - Debris
- DK - Dark-Toned
- GS - Ground Scar
- HT - Horizontal Tank
- LT - Light-Toned
- M - Material
- MM - Mounded Material
- NB - New Building
- P - Pit
- R - Refuse
- RV - Revetted
- SL - Standing Liquid
- SM - Scrap Material
- ST - Stain
- T - Tank
- TR - Trailer
- V - Vehicles
- VT - Vertical Tank
- VSM - Vehicle Scrap Material
- WS - Wet Soil
- ——→ - Ditch
- ——→ - Ditch with No Apparent Flow Direction
- —··—→ - Drainage
- - - - - - Historical Boundary
- — — — Site Boundary
- ——— Study Area Boundary

FIGURE 4
TIDEWATER BALING

APRIL 16, 1959

APPROX SCALE 1:2,700

APRIL 6, 1963 (FIGURE 5)

In the western section of Tidewater Baling, miscellaneous scrap and containers (not annotated) are spread out into low piles. Four large mounds of rough-textured, possibly rectangular, dark- and light-toned scrap materials are visible to the east. A new building is present. A small mound of light-toned, fine-textured material is seen west of the new building. The area between the four large mounds in the northeastern portion of the site appears stained (not annotated).

A group of linear mounds composed of fine-textured, dark-toned materials is visible in the Celanese Acetate Celluloid Facility. Staining (similar in tone to the mounded materials) is noted throughout the northern portion of this facility. A pit with standing liquid is present north of the Celanese Acetate Celluloid Facility.

West of the Celanese Acetate Celluloid plant is a large group (outlined) of trailers (TR). Four probable tank-trailers (not annotated) are located in the eastern corner of this group. Several other trailers are seen to the east. In the field area, light-toned material is visible (as in 1959 and 1963) near a group of trailers. A ground stain (not annotated) is located east of these trailers. A pool of standing liquid is present immediately east of the light-toned material.

A possible stain is noted north of the Celanese Lindol Facility. Debris was noted near the southeastern study area boundary in 1960 and 1961, as it was in 1959. The area also contains a large ground scar and a mottled dark- and light-toned disturbed area. No significant activity or change is noted at the Iron and Steel Facility at this time.

LEGEND

B	- Building
D	- Drums
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DB	- Debris
DK	- Dark-Toned
GS	- Ground Scar
HT	- Horizontal Tank
LT	- Light-Toned
M	- Material
MM	- Mounded Material
NB	- New Building
P	- Pit
R	- Refuse
RV	- Revetted
SL	- Standing Liquid
SM	- Scrap Material
ST	- Stain
T	- Tank
TR	- Trailer
V	- Vehicles
VT	- Vertical Tank
VSM	- Vehicle Scrap Material
WS	- Wet Soil
——•——→	- Ditch
——•——→	- Ditch with No Apparent Flow Direction
——·——→	- Drainage
- - - - -	- Historical Boundary
— — —	- Site Boundary
———	- Study Area Boundary

FIGURE 5
TIDEWATER BALING APRIL 6, 1963 APPROX SCALE 1:3,600

MAY 30, 1970 (FIGURE 6)

Several major changes have occurred. The Celanese facilities and the revetted tank area are no longer present (last seen in 1969). Ironbound Stadium has been constructed on the southeastern portion of the Celanese properties. Playing fields are present in the central field area. A parking lot has been constructed at the former location of the Celanese Scrap Facility. A sharp vertical drop in elevation now occurs between Tidewater Baling and the field areas to the south and east.

The western portion of Tidewater Baling contains a small amount of scrap material (not annotated). Two mixed light- and dark-toned mounds of rough-textured material are present. Four mounds composed primarily of vehicle scrap materials (VSM) are present. Several probable trailers are also noted. Stains (not annotated) are visible around the mounded materials and scrap.

Numerous pools of standing liquid within the study area are probably due to a recent rainfall. However, two areas of standing liquid are noteworthy due to their darker tone and location. A ditch containing dark-toned liquid is present immediately east of the site boundary, beyond the fence, and below the drop in elevation. An area of dark-toned standing liquid is also noted within the site boundary, just west of the ditch. A large ground scar is visible east of this area.

LEGEND

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- M - Material
- MM - Mounded Material
- NB - New Building
- P - Pit
- R - Refuse
- RV - Revetted
- SL - Standing Liquid
- SM - Scrap Material
- ST - Stain
- T - Tank
- TR - Trailer
- V - Vehicles
- VT - Vertical Tank
- VSM - Vehicle Scrap Material
- WS - Wet Soil
- ⟷ - Ditch
- ⟶ - Ditch with No Apparent Flow Direction
- —·—→ - Drainage
- - - - - - Historical Boundary
- — — — Site Boundary
- ——— Study Area Boundary

FIGURE 6
TIDEWATER BALING — MAY 30, 1970 — APPROX SCALE 1:2,700

AUGUST 25, 1977 (FIGURE 7)

A light-toned mound of fine-textured material is located in the western portion of the Tidewater Baling site, among scattered debris and equipment. Four large scrap material mounds composed of medium-toned, homogenous, nearly rectangular objects are visible. The northern mound is linear and extends onto the rail line. A mixed light- and dark-toned mound of scrap material composed of large, irregular objects is present. A large probable stain/wet soil area is present east of the Tidewater Baling site and just west of the open tank area.

LEGEND

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- R - Refuse
- RV - Revetted
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- VSM - Vehicle Scrap Material
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- ——→ - Ditch with No Apparent Flow Direction
- —·—→ - Drainage
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- ——— Study Area Boundary

FIGURE 7
TIDEWATER BALING AUGUST 25, 1977 APPROX SCALE 1:3,300

MARCH 6, 1987 (FIGURE 8)

The western stands have been removed from the stadium area. A new building has been constructed northwest of the Iron and Steel Facility, on the site of the pre-existing open tank area (1959-1970).

Refuse (R) is present in the parking lot adjacent to the Tidewater Baling Facility. Medium- to light-toned mounded scrap materials are present in the northwestern portion of the Tidewater Baling facility. Vehicles and equipment (not annotated) are visible here as well. A dark-toned, fine-textured mound of material is present southeast of the mounded scrap materials. A group of approximately 18-20 drums (D) is present in the central portion of the site. Two piles of scrap materials are present here as well. Two mounds of dark- and light-toned scrap material are present in the central area. A mound of light-toned scrap material is also seen here. Three large, homogenous mounds of medium-toned, rectangular scrap materials are visible to the east.

Several horizontal tanks and a vertical tank containing light-toned liquid are present. The vertical tank is elliptical and is surrounded by light-toned material, which may have been the result of a leak or spill. A thin element of this light-toned material area extends north alongside the aforementioned horizontal tanks. A large probable stain/wet soil area extends from the central portion of the site boundary area to an area northeast of the stadium field. Other smaller probable stain/wet soil areas (not annotated) are present northwest of the stadium, within the ditch and around a possible drum. Northeast of this possible drum is a mound of light-toned material, surrounded by a disturbed area. The fence (not annotated) north of this area, which is south of the Tidewater Baling rail spur (not annotated), has been removed. A ground scar is found in the southwestern portion of the study area.

LEGEND

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- GS - Ground Scar
- HT - Horizontal Tank
- LT - Light-Toned
- M - Material
- MM - Mounded Material
- NB - New Building
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- ——•——→ - Ditch
- ——————→ - Ditch with No Apparent Flow Direction
- ——··——→ - Drainage
- - - - - - Historical Boundary
- — — — Site Boundary
- ——————— Study Area Boundary

FIGURE 8

TIDEWATER BALING MARCH 6, 1987 APPROX SCALE 1:2,800

REFERENCES

AERIAL PHOTOGRAPHY

Date	Agency	Mission Code	Agency Frame #	Orig. Scale	EPIC Frame #
April 6, 1940	TXAERO[1]	--	136,137	1:20,000	5645,5646
June 16, 1946	NOS[2]	46C-5	314,315	1:24,000	4601,4602
April 7, 1951	TXAERO	--	2665,2666	1:20,000	5651,5652
January 1, 1954	USGS[3]	VBV	32,33	1:20,000	5462,5463
April 16, 1959	ROBASI[4]	JER	72,73	1:18,000	5395,5396
October 8, 1960	NOS	605-4	3067A,3069A	1:37,000	4606,4607
April 23, 1961	TXAERO	1116	1669,1670	1:18,000	5658,5659
April 6, 1963	NOS	63W-2	5218,5219	1:36,000	4608,4609
April 7, 1969	TXAERO	1252	1823,1824	1:18,000	5666,5667
May 30, 1970	ROBASI	HMC	108,109	1:14,400	15240,15241
June 4, 1971	NOS	71L	6398,6399	1:18,000	5952,4611
April 11, 1974	TXAERO	2063	5926,5927	1:18,000	5670,5671
October 19, 1974	NOS	2063	7146,7147	1:18,000	4612,4613
August 25, 1977	NOS	77B-2	8751,8752	1:36,000	4616,4617
October 13, 1981	NOS	81EC	5289,5290	1:30,000	4618,4619
March 6, 1987	KEY[5]	87-14	17,19	1:6,000	25675,25676

MAPS

Source	Name	Scale	Date
USGS	Elizabeth, NJ	1:24,000	1981
SANBORN[6]	Vol. 8, Sheet 820	1:600	1931-1950

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[1]Aero Service Division, Western Geophysical Company, Houston, Texas

[2]National Ocean Survey, U.S. Department of Commerce

[3]U.S. Geological Survey, U.S. Department of the Interior

[4]Robinson Aerial Survey Inc., Newton, New Jersey

[5]Keystone Aerial Surveys, Philadelphia, Pennsylvania

[6]Sanborn Map Company, Pelham, New York